

Name: \_\_\_\_\_

Class: \_\_\_\_\_

### Weathering & Erosion Activity

#### Problem:

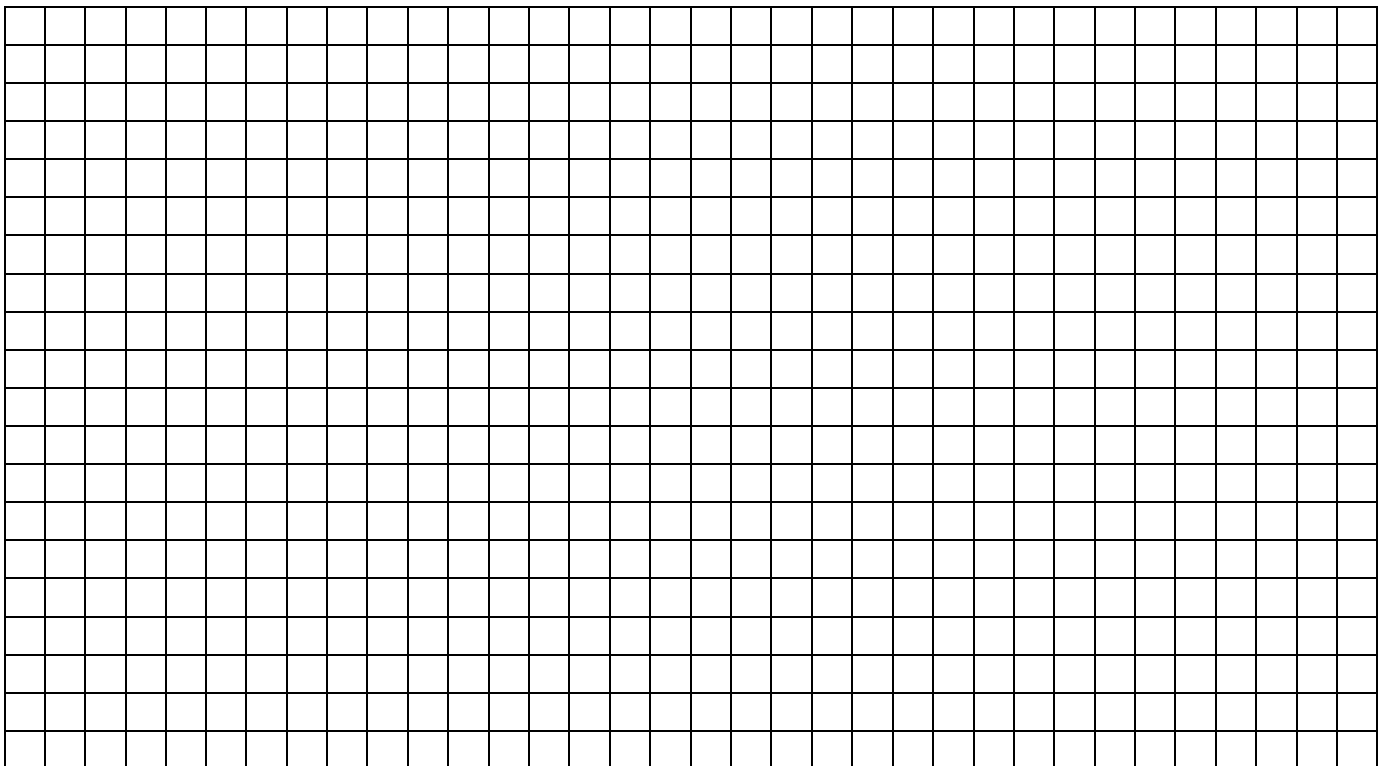
A student dropped plastic beads of various sizes into a plastic column filled  $\frac{3}{4}$  of the way up with water. She measured each bead, and found the time it took the beads to settle to the bottom of the column. The student's data is shown in the table below.

**DATA TABLE #1**

<b>Bead Size (mm)</b>	<b>Settling Time (sec)</b>
<b>4</b>	<b>16.5</b>
<b>8</b>	<b>10.5</b>
<b>12</b>	<b>6.8</b>
<b>16</b>	<b>4.2</b>

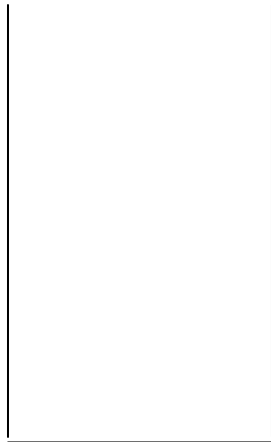
#### Procedure:

1. Plot this data on the graph below. Label each axis with the correct variable.
2. Select a proper scale that utilizes as much of the graph as possible.
3. Draw a trend line from your plotted data. This is a best fit line, NOT a line connecting all points.
4. Choose an appropriate title and place it on your graph.



**Discussion Questions:**

1. Predict the settling time of a 10mm diameter plastic bead if it were dropped in this column. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. If an 8mm bead takes 11.8 seconds to settle in the same column of water, what reason would explain the different settling times of the data? (Assume there were no timing errors). \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. A student places a 2mm plastic bean in the column, what do you predict for the settling time? \_\_\_\_\_  
\_\_\_\_\_
4. A student mixes up 20 beads of each size used in this experiment. She then dumps them all into the column at once. Describe the appearance of the beads after they all settle. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. Draw a picture of your description given in question #4.



6. What is this type of sorting called? \_\_\_\_\_